

CONFIDENCE INTERVALS USING THE T-DISTRIBUTION

TI-83 INSTRUCTIONS

VISIT

These instructions show how to calculate a confidence interval for the mean of a population from a sample.

The fat content (in grams) of 30 randomly selected pies at the local bakery was determined and recorded as:

15.1 14.8 13.7 15.6 15.1 16.1 16.6 17.4 16.1 13.9 17.5 15.7 16.2 16.6 15.1 12.9 17.4
16.5 13.2 14.0 17.2 17.3 16.1 16.5 16.7 16.8 17.2 17.6 17.3 14.7

A 98% confidence interval for the average fat content of all pies made at this bakery can be

LANZAROTE
Caliente.com

	L2	L3	1
15.1			
14.8			
13.7			
15.6			
15.1			
16.1			
16.6			
17.4			
16.1			
13.9			
17.5			
15.7			
16.2			
16.6			
15.1			
12.9			
17.4			
16.5			
13.2			
14.0			
17.2			
17.3			
16.1			
16.5			
16.7			
16.8			
17.2			
17.6			
17.3			
14.7			

D=15.1

Step 2: Press **STAT** and use **▶** to scroll to **TESTS** and then choose **8:TInterval**.

```
EDIT CALC TESTS
3↓2-SampZTest...
4↓2-SampTTest...
5↓1-PropZTest...
6↓2-PropZTest...
7↓ZInterval...
8↓TInterval...
9↓2-SampZInt...
```

Step 3: Set up the screen as shown to calculate the 98% confidence interval.

```
TInterval
Inpt:DATA Stats
List:L1
Freq:1
C-Level:.98
Calculate
```

Step 4: Highlight **Calculate** and press **ENTER**.

```
TInterval
(15.283,16.51)
x=15.89666667
sx=1.365203871
n=30
```

So, we are 98% confident that the average fat content of all pies made at this bakery lies between 15.283 and 16.51 grams.